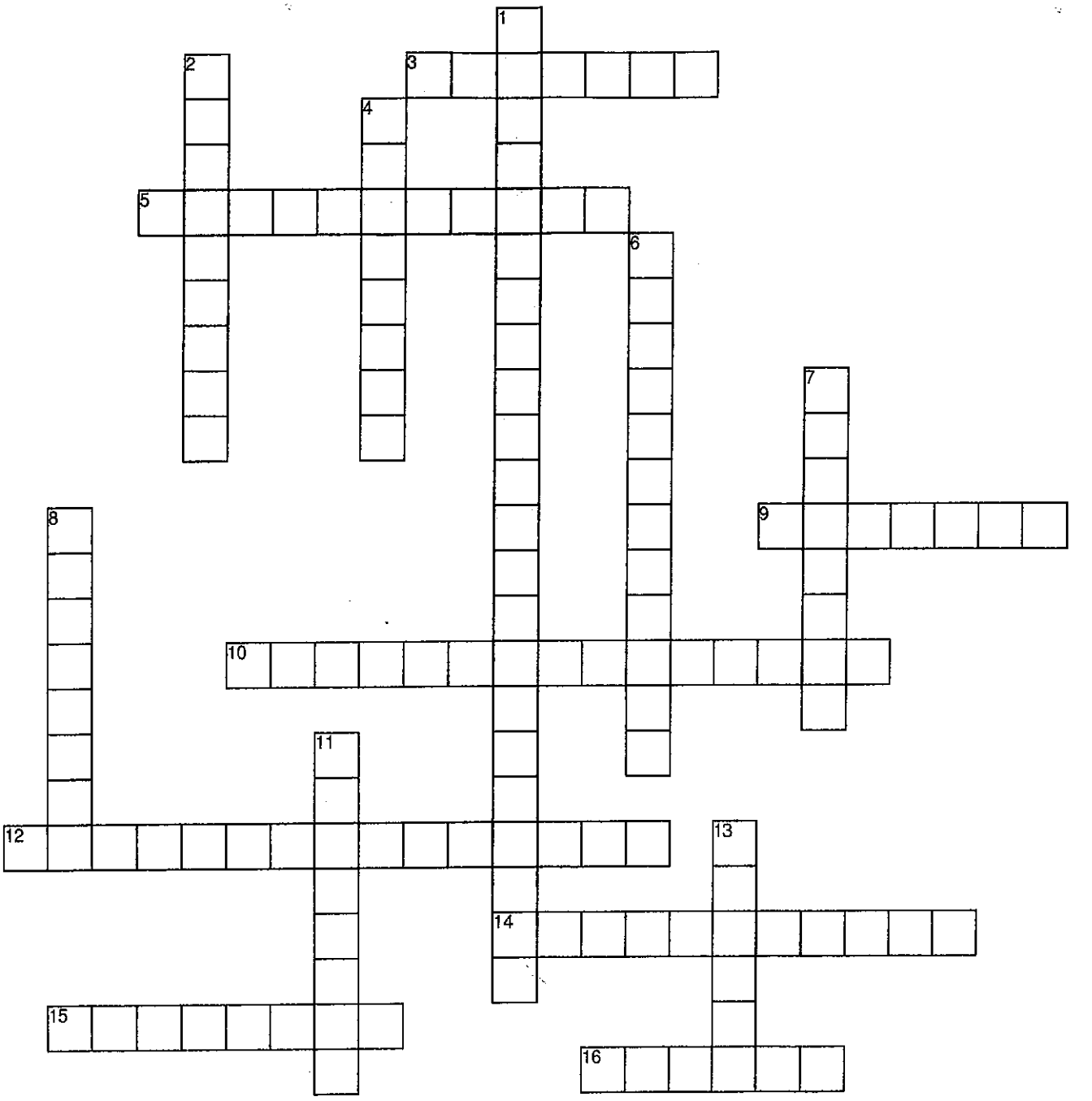
Name: _____

Newtons Laws

Complete the crossword below



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ree Body Diagrams

) A 50N Ball is pushed with a 200N force against a 20N friction force.

(2) A 16N book rests on a table. What is the mass of the book?

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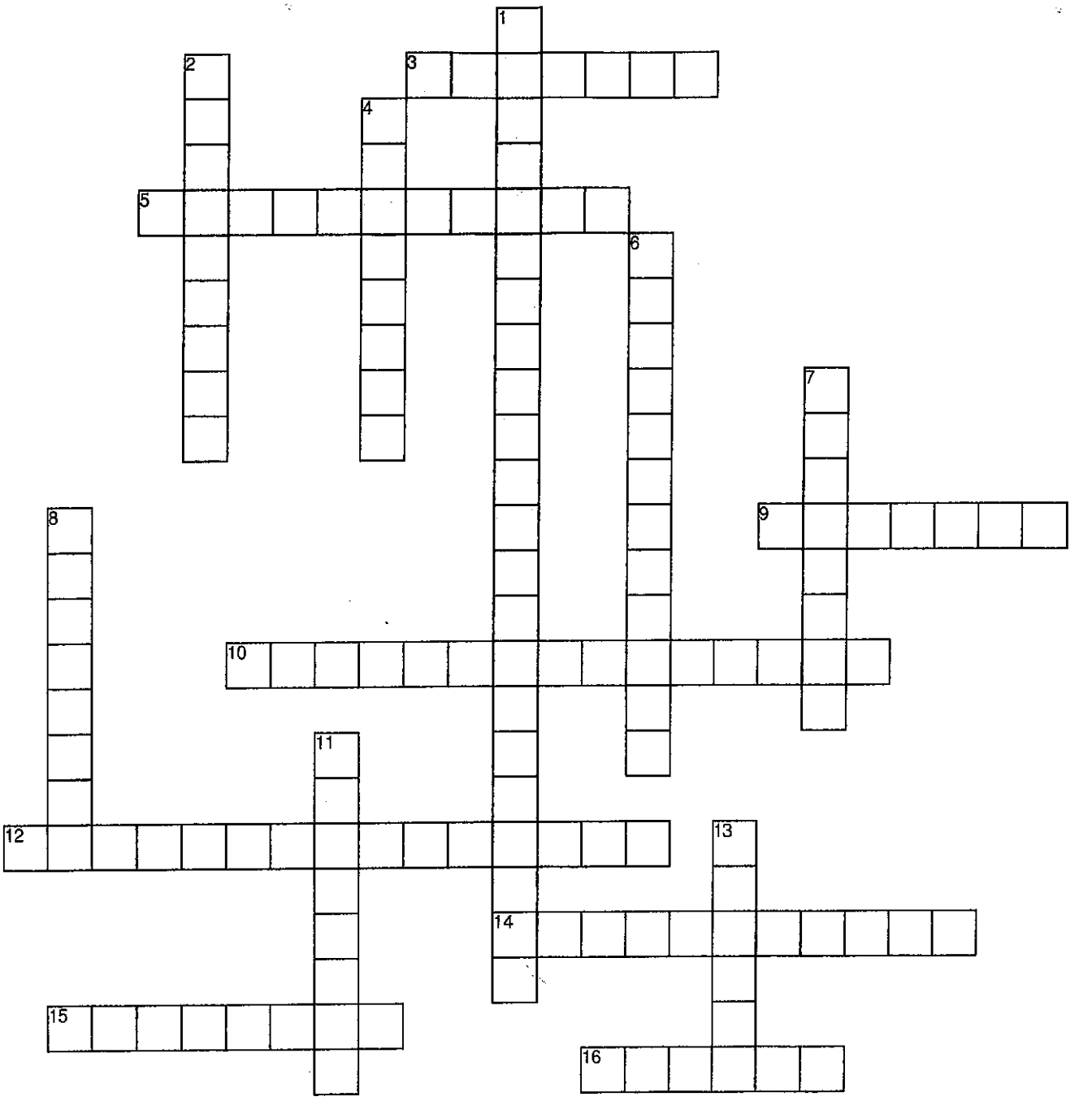

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Across

3. This priniciple describes an objects resistance to a change in its' state, be it in motion or at rest
5. When an object rests on a surface this force acts perpendicular from the surface onto the object
9. This type of acceleration always acts in the downward direction
10. This type of illustration can be used to show the forces acting on an object
12. This device can measure mass even in zero gravity
14. Meaning 'equal' or 'level' in Latin, the state of an object with all forces canceled out
15. objects at rest will stay there and objects in motion will keep moving unless either is acted upon by an outside unbalanced force. Newtons _____ _____
16. Units you would use to measure weight, tension and force. NOT MASS

Down

1. The units for acceleration
2. Two objects with different masses will accelerate differently even if the same force is applied to both. Newtons ____ _____
4. When all of the forces on an object cancel out, they are said to be this
6. When velocity changes over time. Can be a change in speed or direction
7. For every action there is an equal and opposite reaction. Newtons ___ ____
8. This force opposed motion when objects are in contact
11. These units are used to measure mass, NOT WEIGHT
13. The effect of gravity on an objects mass is measured/described by what?

Newton's Laws Test- Practice Questions

1. The unbalanced force required to accelerate a 2.0 kg mass at 4.0 m/s^2 is
   6.0 N 2.0 N 8.0 N 16 N

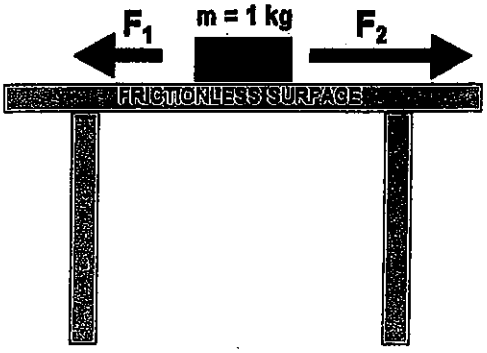
2. A force of 12. N applied to a given mass accelerates it at 3.0 m/s^2. What is the mass of the object? -

3. If the mass of an object is decreased, its inertia – decreases increases remains the same

4. HONORS: If the net force applied in the direction of motion to a certain object on a horizontal frictionless surface is doubled, the acceleration of the object is – halved doubled unchanged quadrupled

5. A car whose mass is 2000 kg is accelerated uniformly from 5m/s to 20 m/s in 10. s on a level highway. The net force accelerating the car is – 2000 N 3000 N 20,000 N 30,000 N

Base your answers to the following questions on the diagram below



6. The weight of the wooden block is -- 1 N 9.8 N 2.2 N 19.6 N

7. The wooden block must be – at rest accelerating to the left accelerating to the right

8. If F_1 equals 2 N and F_2 equals 5 N, then the net force acting on the block is
   2N to the left 3N to the left 2N to the right 3N to the right

9. On the surface of a distant planet a 5 kg mass weighs 20 N. What is the acceleration due to gravity there ?
   0.25 m/s^2 100m/s^2 4 m/s^2 15 m/s